We claim:

1. A method of cooling a mammal by evaporation, comprising:

providing a multi-layered, liquid-retaining composite material comprising at least one of hydrophilic polymeric fibers or hydrophilic polymeric particles that that absorb at least about 2.5 times the fiber's or particle's weight in water;

providing a bladder that stores a liquid;

hydrating said multi-layered composite with a liquid; and

employing said multi-layered, liquid-retaining composite material as a garment or a flat sheet and evaporatively cooling said mammal;

wherein the bladder houses a liquid used to maintain or provide a state of hydration for at least part of the composite.

2. The method of claim 1, wherein the liquid-retaining composite material comprises a fiberfill batting material.

3. The method of claim 1, wherein the liquid-retaining composite material comprises hydrophilic polymeric fibers that absorb at least 2.5 times the fiber's weight in water.

4. The method of claim 1, wherein the composite material is a garment.

5. The method of claim 4, wherein the garment is a shirt, vest, pant, jacket, headband, hat, blanket or neckband.

6. The method of claim 1, wherein said hydrating step comprises soaking the composite material from 2-5 minutes.

7. The method of claim 1, wherein said fibers are composed of not less than about 90 weight percent of acrylontrile and less than about 10 weight percent of a water-absorbing resin containing carboxyl groups.

8. The method of claim 2, wherein said hydrophilic polymeric fibers are blended with said fiberfill in a range of from about 15 percent to about 75 percent with the fiberfill.

9. The method of claim 2, wherein said hydrophilic polymeric fibers are capable of expanding about 100 to about 300 times from their original dry size to a wet size responsive to the hydrating step.

10. The method of claim 1, wherein the fiberfill batting material comprises at least one of a woven aramid fiber or a polybenzamidazole fiber.

11. The method of claim 1, wherein the bladder is attachable to the composite material via a harness system.

12. The method of claim 1, wherein the bladder is attachable to the composite material via a hook and loop connection.

13. The method of claim 1, wherein the bladder is incorporated into the composite material.

14. The method of claim 1, wherein the bladder has a liquid flow tube attachable to the composite material to allow a liquid to flow from the bladder into the composite material.

15. A liquid-retaining, evaporative cooling device, comprising:

a multi-layered, liquid-retaining composite material that has at least one of hydrophilic polymeric fibers or hydrophilic polymeric particles that that absorb at least about 2.5 times the fiber's or particle's weight in water;

wherein said device comprises a bladder to hold a liquid and maintain or provide a state of hydration for at least part of the composite material.

16. The liquid-retaining, evaporative device of claim 15, wherein said composite material comprises a retainer layer, filler layer, and conductive layer, with:

the retainer layer and the conductive layer both communicating with the filler layer, and

the filler later including said at least one of hydrophilic polymeric fibers or hydrophilic polymeric particles that that absorb at least about 2.5 times the fiber's or particle's weight in water.

17. The liquid-retaining, evaporative device of claim 15, wherein the liquid-retaining composite comprises a fiberfill batting material.

18. The liquid-retaining, evaporative device of claim 15, wherein the liquid-retaining composite comprises hydrophilic polymeric fibers that that are composed of not less than about 90 weight percent of acrylontrile and less than about 10 weight percent of a water-absorbing resin containing carboxyl groups.

19. The liquid-retaining, evaporative device of claim 15, wherein the liquid-retaining composite material is a garment.

20. The liquid-retaining, evaporative device of claim 19, wherein the garment is a shirt, vest, pant, jacket, headband, hat, blanket or neckband.

21. The liquid-retaining, evaporative device of claim 15, wherein at least one of the fibers or particles are blended with a fiberfill batting material in a range of from about 15 percent to about 75 percent with the fiberfill batting material.

22. The liquid-retaining, evaporative device of claim 15, wherein the fiberfill batting material comprises at least one of a woven aramid fiber or a polybenzamidazole fiber.

23. The liquid-retaining, evaporative device of claim 15, wherein the fiberfill batting material comprises natural fibers.

24. The liquid-retaining, evaporative device of claim 15, wherein said hydrophilic fibers have diameters ranging from about 10 to about 50 microns and lengths ranging from about 3 to about 60 millimeters.

25. The liquid-retaining, evaporative device of claim 15, wherein the hydrophilic polymeric fibers are comprised of absorbent gelling material and said fibers are bi-component fibers.

26. The liquid-retaining, evaporative device of claim 15, wherein said bladder is attached to the composite material via a liquid delivery tube.

27. The liquid-retaining, evaporative device of claim 26, wherein the liquid-retaining composite material comprises an input port to receive said liquid delivery tube.

28. The liquid-retaining, evaporative device of claim 15, wherein said bladder comprises an output port, and the composite material comprises an input port, and the bladder is attached to the composite material via communication of the input and output ports.

29. The liquid-retaining, evaporative cooling device of claim 15, wherein the bladder comprises a harness to attach the bladder to the composite material.

30. The liquid-retaining, evaporative cooling device of claim 15, wherein the bladder is attached to the composite material via a hoop and loop connection.

31. The liquid-retaining, evaporative cooling device of claim 15, wherein the bladder is incorporated into the composite material.

32. A multi-layered evaporative cooling device, comprising:

a retainer layer,

a filler layer that comprises superabsorbent polymeric fibers, and

a conductive layer, wherein the retainer and conductive layers communicate with the filler layer; and

a bladder for holding liquid, with the bladder communicating with and hydrating at least a portion of the filler layer.

33. The multi-layered evaporative cooling device of claim 32, wherein the retainer, filler, and conductive layers are in the form of a garment.

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